

What is claimed is:

1. An optical recording medium-manufacturing apparatus for manufacturing an optical recording medium
5 by forming a central hole that extends through a disk-shaped substrate and a resin layer formed on one side of the disk-shaped substrate,
the optical recording medium-manufacturing apparatus comprising:
10 a cut-forming machine installed at a first processing location and having a cut-forming blade section that forms a circular cut in the resin layer such that the circular cut has a diameter larger than a diameter of the central hole and surrounds a portion of
15 the resin layer where the circular cut is to be formed;
a punching machine installed at a second processing location and having a punching blade section that is pushed into a portion of the disk-shaped substrate where the central hole is to be formed, from
20 the other side of the disk-shaped substrate, to thereby punch the central hole;
a transfer mechanism that transfers the disk-shaped substrate for which the formation of the cut has been completed from the first processing location to
25 the second processing location, the transfer mechanism having a transfer stage that supports the disk-shaped substrate, and an indexing device that transfers the disk-shaped substrate on the transfer stage from the first processing location to the second processing
30 location; and
a control section that controls respective operations of said cut-forming machine, said punching machine, and said transfer mechanism, said control

section causing said cut-forming machine to form the cut in the resin layer, then causing said indexing device of said transfer mechanism to transfer the disk-shaped substrate for which the formation of the cut has been completed from the first processing location to the second processing location, and then causing said punching machine to punch the central hole through the disk-shaped substrate for which the formation of the cut has been completed.

2. An optical recording medium-manufacturing apparatus as claimed claim 1, comprising a cleaner that is installed at a third processing location, for cleaning the central hole and its vicinity by executing at least one of blowing of a gas toward a rim of the central hole of the disk-shaped substrate for which the formation of the central hole has been completed and suction of air in the vicinity of the rim of the central hole,

wherein said control section causes said transfer mechanism to transfer the disk-shaped substrate for which the formation of the central hole has been completed from the second processing location to the third processing location, and causes said clear to clean the central hole and its vicinity.

3. An optical recording medium-manufacturing apparatus as claimed claim 1, comprising a feed mechanism that feeds the disk-shaped substrate to be formed with the cut onto the transfer stage under the control of said control section, and a delivery mechanism that delivers the disk-shaped substrate for which the formation of the central hole has been completed from the transfer stage, under the control of said control section.

4. An optical recording medium-manufacturing apparatus as claimed claim 1, comprising a substrate-detecting section that detects the disk-shaped substrate being transferred over a substrate-detecting location defined between a substrate delivery location from which the disk-shaped substrate for which the formation of the central hole has been completed is delivered from the transfer stage and a substrate feed location from which the disk-shaped substrate to be formed with the central hole is fed onto the transfer stage, and

wherein said control section executes a predetermined error process when said substrate-detecting section has detected the disk-shaped substrate.

5. An optical recording medium-manufacturing apparatus as claimed claim 1, wherein said transfer mechanism is configured to be capable of transferring the disk-shaped substrate to be formed with the cut from a substrate feed location from which the substrate is fed onto the transfer stage, to the first processing location, and capable of transferring the disk-shaped substrate for which the formation of the central hole has been completed to a substrate delivery location from which the substrate on the transfer stage is delivered out of the transfer stage.

6. An optical recording medium-manufacturing apparatus as claimed claim 1, wherein said cut-forming machine comprises a first disk-holding section that holds the disk-shaped substrate by sucking the other side of the disk-shaped substrate.

7. An optical recording medium-manufacturing apparatus as claimed claim 1, wherein said punching

machine includes a second disk-holding section that holds the disk-shaped substrate by sucking the other side of the disk-shaped substrate, and a punched piece-holding section that holds a punched piece which is punched off by said punching blade section.

8. An optical recording medium-manufacturing apparatus as claimed claim 7, comprising a collector that collects the punched piece held by said punched piece-holding section.

10